

Rates of Latent Tuberculosis Infection Using Different Diagnostic Tests.

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Background. The interferon- γ -release assays (IGRA) are emerging as an attractive alternative to the tuberculin skin test (TST) for the diagnosis of latent tuberculosis infection (LTBI). The absence of a gold standard for LTBI hampers the assessment of any diagnostic test.

Methods. In a prospective study, 229 patients (mean age 35.5 \pm 24.6 y) from different ward of the Hospital (Respiratory Diseases, Dermatology, Rheumatology, Pediatrics, Infectious Diseases, Hematology and Transplant Unit) were simultaneously tested for a suspect of either LTBI or active tuberculosis using all commercially available diagnostics: TST, QuantiFERON-TB Gold (QFT-2G), QuantiFERON-TB Gold In-Tube (QFT-3G) and T-SPOT.TB (TS.TB).

Results. 42(18.3%), 37(16.2%), 59(25.8%) and 79(34.5%) patients were positive with TST, QFT-2G, QFT-3G and TS.TB, respectively. TS.TB ($p < 0.001$) and QFT-3G ($p = 0.016$) provided more positive results than TST, while no difference was found for TST and QFT-2G ($p = 0.53$). All IGRA showed a good overall agreement (TS.TB vs QFT-2G, $k = 0.55$; TS.TB vs QFT-3G, $k = 0.72$; QFT-2G vs QFT-3G, $k = 0.62$). In 22 subjects (9.6%) QFT-3G was positive and QFT-2G negative. Indeterminate results were more frequent with QFT-2G (18.3%) and QFT-3G (12.7%) than with TS.TB (1.3%, $p < 0.0001$).

Conclusion. Rates of LTBI as detected by different diagnostic tests may have significant variations. Performances of various IGRA formats were variable in this population.

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